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## THE ORIGIN OF THE LITHUANIAN DENOMINATIVE SUFFIX -yti, -ija

**Abstract.** The Baltic denominative suffix Lith. *dal-ýti, -ija*, Latv. *sàl-ît, -îju* does not go back to denominatives from *i*-stems, as generally assumed. It was an offshoot of the Balto-Slavic *i*-verbs consisting of the present stem *\*-i* (PIE 3 sg. *\*prokéyeti* > Bl.-Sl. *\*prašiti* > *\*prašit* > Bl. *\*prašī* > 3<sup>rd</sup> person *\*praši*) + *\*-ija* (the universal present stem suffix for denominatives in Baltic). This is in accordance with the development of Balto-Slavic *i*-verbs in Baltic.

**Keywords:** Baltic; Balto-Slavic; verb; *i*-verbs; causatives; iteratives; denominatives.

1. Lithuanian has a class of denominative verbs in *-yti, -ija* that can be exemplified with *dalýti, daliija, dalijo* ‘divide’ (← *dalis* ‘part’) or *nuōdyti, nuōdija, nuōdijo* ‘poison’ (← *nuodaĩ* ‘poison’). Verbs in *-yti, -ija* are typically made from nouns. Deadjectives occur, but are rare (e.g. *geltonýti, -ija* ‘grow yellow’ ← *geltónas* ‘yellow’). The same is even truer for deverbatives, which are perhaps only dialectal (dial. *plėišyti, -ija* ‘crack, chap’ ← *plyšti, -šta* ‘split, crack’). Verbs in *-yti, -ija*, finally, are frequently used to adapt Slavic loanwords, e.g. dial. *mīšlyti, -ija* ‘think’ (Br. *myslić*, Pol. *myśleć*).<sup>1</sup> From a formal point of view, the only variant worth of note are forms with long stem vowel *-ī-* in the present of some dialects, e.g. *akýti, akýja, akijo* ‘grow porous’ for standard *akýti, akija, akijo* (← *akis* ‘eye’).<sup>2</sup> It is generally assumed, doubtless correctly, that pres. *-ỹja* is analogical to the paradigm type *gýti, gỹja* (< *\*giñja*), *gìjo* ‘recover’.<sup>3</sup>

<sup>1</sup> See Stang (1942, 174–176; 1966, 366f.); Otrębski (1965, 390–394); LKG 2, 261–263; Ostrowski (2006, 125–128) for more information.

<sup>2</sup> Cf. Zinkevičius (1966, 340).

<sup>3</sup> E.g. LKG 2, 261; Zinkevičius (1981, 92), among others.

Lith. *-yti, -ija* has a clear pendant in Latvian, e.g. *sàlît, -îju, -îju* ‘salt’ (← *sàls* ‘salt’), *medît, -îju* ‘hunt’ (← *mežs* ‘forest’), *zèltît, -îju* ‘gild’ (← *zèlts* ‘gold’). As in Lithuanian, this suffix is mainly used to derive verbs from nouns, more rarely from adjectives (e.g. *rāmît, -îju* ‘castrate’ ← *rāms* ‘tame’). It is also widely used to adapt Slavicisms, e.g. *kristît, -îju* ‘baptize’ ← ORu. *kr̥bstiti* ‘id.’ (cf. Lith. *krikštyti, -ija* ‘id.’).<sup>4</sup> From a formal point of view, the main difference with Lithuanian is that in Latvian the stem vowel *-ī-* is consistently long in both the present and the preterit. Endzelin (1923, 633) observes that *-ij-*, with short vowel, is also found in Latvian dialects, including dialects in which *\*-ī-* is not shortened before *jod*. We will return to the length of *\*-ī-* below §2.2.

Whereas the East Baltic picture is reasonably clear (notwithstanding issues like the length of pres. *\*-īja*), the case of Old Prussian is more involved. One can distinguish between two approaches. According to what may be termed the traditional approach, Old Prussian has very few (certain) verbs in *\*-īti, \*-īja*:<sup>5</sup> *cixtitwi, cixtia* ‘baptize’, *grīki-si*, 1 pl *grīkimai* ‘sin’, *madlit, madli*, 1 pl. *madlimai* ‘pray’, and one or two more.<sup>6</sup> Almost all examples are Slavicisms, which obviously recalls the same use of this suffix in Lithuanian and Latvian. In view of the nature of the evidence, the absence of native vocabulary is probably not significant. According to an alternative approach by Smoczyński (2005, 443–449), the types (Lith.) *-yti, -ija* and *-ėti, -i* would have merged into a large Old Prussian class in *\*-ūt, \*-ija*.<sup>7</sup> If this is correct, this type would be one of the best represented verbal classes of Old Prussian altogether. It must be noted, however, that Smoczyński’s proposal crucially depends on a number of controversial assumptions and that the results are sometimes counterintuitive. Thus, *turrītwei, turri* (*tur, tur[r]ei, ture*), 1 pl. *turrimai* ‘have’ (: Lith. *turėti, tūri*, Latv. *turēt, turu* ‘id.’) and *druwīt, druwē* (*druwe*), 1 pl. *druwēmai* ‘believe’ (← *druwis* ‘faith’) are both analyzed as *ija*-presents and not, as traditionally done (and as still seems evident to me), as *i-* viz. *ēja*-presents. I refer to Petit (2010, 231–241) for discussion.

<sup>4</sup> See Endzelin (1923, 633–637) for more information.

<sup>5</sup> I use the following conventions for Balto-Slavic and Baltic prosodic features:  $\bar{E}$  = acute,  $\bar{E}$  = non-acute (or simply length, without specification of acuteness). Stress position is marked as  $\acute{E}$  (except in *enclinema*, which are irrelevant for this article). I keep the traditional notation for Proto-Slavic.

<sup>6</sup> E.g. Stang (1942, 176); Endzelin (1943, 111); Mažiulis (2004, 78); Rinkevičius (2015, 183), among others.

<sup>7</sup> Similarly Ostrowski (1994, 169–171).

For present purposes, however, it is unnecessary to take a strong position on Old Prussian, as the Proto-Baltic pedigree of the suffix *\*-īti*, *\*-īja*, *\*-ījā* is in any case clear. The suffix *\*-īti*, *\*-īja*, *\*-ījā* (the short vowel of *\*-īj-* will be justified below §2.2) built denominatives. It is less clear whether it also built deadjectives. It was probably not used for deverbatives, or very moderately so. Its wide use to adapt Slavic loanwords must be a parallel development of the three Baltic languages, no doubt motivated by the fact that it was the closest match for the extremely widespread Slavic *i*-verbs (on which see below §2.3). A final detail to be mentioned is that the type *\*-īti*, *\*-īja* is slightly less productive than other denominative suffixes (Lith. *-oti*, *-uoti*, *-ėti*; cf. Pakerys 2011). As a result, it stands in (disadvantageous) competition with other types. For instance, the *Paradebeispiel* Lith. *dalýti*, *-ija* ‘divide’ has an essentially synonymous variant *dalinti*, *-ina* and a much rarer dialectal variant *dalýti*, *dālo*. It is unclear whether the limited productivity of the denominatives in *\*-īti*, *\*-īja* has any bearing on the central topic of this article: the origin of this suffix.

On this matter there is nearly complete agreement.<sup>8</sup> Verbs in *\*-īti*, *\*-īja* originated in denominatives to *i*-stems, as still seen in examples like *dalis*, *-iēs* → *dalýti*, *-ija*. The suffix spread to other nominal stems, and finally to adjectives and even to secondary verb derivation. Its core function as a purely denominative suffix, however, is still noticeable in Lithuanian and Latvian, just as its original locus in *i*-stem nouns.<sup>9</sup> The remainder of this article is divided into two parts. In the first part I will argue that, despite appearances, the standard account of the origin of verbs in *\*-īti*, *\*-īja* cannot be correct (§2). In the second part I will present a new account of the origin of this suffix (§3).

2. Origin of Bl. *\*-īti*, *\*-īja* in *i*-stem denominatives has been traditionally simply taken for granted. As a result, it has never been argued for in the

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<sup>8</sup> The only exception known to me is Trautmann (1910, 276), who following a suggestion by Leskien (1884, 441) proposed that Lith. *-yti*, *-ija*, Latv. *-īt*, *-īju* and OPr. *\*-īti* in verbs like *cixtitwi* are of Slavic origin. This approach has been abandoned long ago (e.g. Endzelin 1923, 634; Stang 1942, 175).

<sup>9</sup> So e.g. Endzelin (1923, 633); Skardžius (1943, 534); Stang (1942, 174; 1966, 367); Vaillant (1966, 435); Zinkevičius (1981, 92); Schmalstieg (2000, 199); Ostrowski (2006, 128); Pakerys (2011, 271). The list is easily extended.

necessary detail. My criticism in what follows, therefore, is directed against arguments that, in some cases, are only implicit in the literature.

2.1. It will be convenient to start with some numbers. The handbooks regularly begin their treatment of this class by listing examples like *dalyti*, *-ija* (← *dalis*), *akýti*, *ija* (← *akis* ‘eye’), *kirmýti*, *-ija* ‘grow wormy’ (← *kirmis* ‘worm’), *šaknyti*, *-ija* ‘take root’ (← *šaknis* ‘root’), and a few others.<sup>10</sup> This procedure, however, distorts the real picture. Derivatives from *i*-stems certainly exist, but are not particularly prominent. According to Pakerys (2011, 280), they make up the 21,92 % of the corpus of Lithuanian *ija*-denominatives. Most *ija*-denominatives are made from (*i*)*o*-stems (57,53 %), whereas denominatives from other stems are far rarer (10,96 % from (*i*)*a*-stems, 5,48 % from *e*-stems, 2,74 % from (*i*)*u*-stems and 1,37 % from consonant-stems).<sup>11</sup> The relevance of these numbers becomes apparent when confronted with those of Lithuanian denominatives in *-oti*, *-oja* (PIE \**-ah<sub>2</sub>-ie/o-*), *-uoti*, *-uoja* (post-PIE \**-oh<sub>1</sub>-ie/o-*, *vel sim.*)<sup>12</sup> and *-ėti*, *-ėja* (PIE \**-eh<sub>1</sub>-ie/o-*). The connection of *oja*-denominatives with *a*-stem nouns is still apparent in modern Lithuanian (71,53 %, according to Pakerys 2011, 283), and the same holds true for the connection of *uoja*-denominatives with *o*-stem nouns (70,95 %, Pakerys 2011, 286). By contrast, *ėja*-denominatives, which go back to PIE and certainly did not originate in denominatives to Baltic *e*-stems,<sup>13</sup> are not prominently made from *e*-stem nouns (30,56 %, Pakerys 2011, 277). As in the case of the *ija*-denominatives, most denominatives in *-ėti*, *-ėja* are made from (*i*)*o*-stem nouns (50 %).

I do not have exact numbers for Latvian, but the examples given in the handbooks suggest that the proportions in this language cannot be very different from those in Lithuanian. At any rate, denominatives from *i*-stems are not particularly prominent in Latvian either. There is of course no reason why a denominative suffix cannot spread beyond its original locus. Still, the unmarked reading of the facts is that origin in denominatives from *i*-stems is not supported by the data.

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<sup>10</sup> E.g. Skardžius (1943, 534); LKG 2, 261, among many others.

<sup>11</sup> Old Lithuanian presents the same picture, cf. Ostrowski (2006, 125f.).

<sup>12</sup> I keep the traditional reconstruction of the background of verbs in *-uoti*, *-uoja* for convenience. See Fortson (2020, 82–90) for criticism of the deinstrumental analysis implicit in \**-oh<sub>1</sub>-ie/o-*.

<sup>13</sup> See Jasanoff (2002–2003, 142–149) for the PIE background of this suffix.

2.2. Formal problems are even more damaging. In this section we will address the matter without taking into consideration, for the moment, the Slavic facts (on which see below §2.3).

If *iā*-denominatives go back to PIE denominatives from *i*-stems, the starting point can only be a PIE present stem *\*-i-ǵé/ó-* (Ved. *jāni-* ‘woman, wife’ → *janīyāti* ‘desires a wife’, Gk. *μῆνις* ‘wrath’ → *μηνίω* ‘be full of wrath’, Lat. *fīnis* ‘end’ → *fīniō, -īre* ‘finish’)<sup>14</sup>. Let us assume, for a second, that this sequence was kept unaltered until early Baltic (which, as we shall see below §2.3, is demonstrably not the case). As in all other Balto-Slavic secondary verbs, one expects the stem vowel before *\*-ǵe/o-* to be used for the aorist-infinitive stem: inf. *\*-i-tī*, aor. *\*-i(-s)-*. The Baltic preterit tells us nothing about the Balto-Slavic aorist and will be left out of consideration in what follows. The hypothesized inf. *\*-i-tī*, of course, is not what we have in Lith. *dal-ýti*, Latv. *sàl-ît* (< Bl. *\*-ī-ti*). I can see three possible ways to account for the acute length of Bl. *\*-ī-ti* (< Bl.-Sl. *\*-ī-tī*):

- i. Balto-Slavic inherited *\*-ī-ǵé/ó-*, not *\*-i-ǵé/ó-* from PIE (finally leading to Bl.-Sl. inf. *\*-ī-tī*). This position was generally held, at least implicitly, in older literature.<sup>15</sup> Nowadays it is clearly untenable. Ved. *janīyāti* offers no unambiguous support for such a reconstruction, as *-i-* and *-u-* are *always* lengthened before suffixes beginning with *jod* in Vedic. In the case of denominatives unexpected length is also found among derivatives from thematic stems (e.g. *ṛtá-* ‘truth, order’ → *ṛtayá-* and *ṛtāyá-* ‘observe *ṛtá-*’), where it is rhythmically conditioned, cf. Inslér (1997). The originality of *\*-i-ǵé/ó-* is confirmed by Greek (cf. Tucker 1990, 404–410) and is of course expected from a PIE perspective.
- ii. Balt(o-Slavic) *\*-ī-* in inf. *\*-ī-tī* goes back to *\*-ij-*, where *\*-ij-* was resegmented from Bl.-Sl. pres. *\*-i-ǵe/o-*.<sup>16</sup> In this case I suppose the acute of inf. *\*-ī-tī* must be analogical, which is reasonable (see below §2.3). However, given the ubiquity of *ǵe/o-*-presents after stems ending in a

<sup>14</sup> I keep Lat. *fīnire* in the list of reflexes of PIE *\*-i-ǵé/ó-* for convenience. In reality PIE *\*-i-ǵé/ó-* and *\*-e-ǵé/ó-* merged in Italic, which implies that this branch is ambiguous. See Vine (2012, 556–564).

<sup>15</sup> E.g. Brugmann (1913, 221–223); Endzelin (1923, 634); Meillet (1934, 239); Skardžius (1943, 534), among others.

<sup>16</sup> So Schmalstieg (2000, 199).

vowel at all stages of Baltic and Baltic-Slavic I can see no motivation for the reanalysis of  $*-i-je/o-$  as  $*-ij-e/o-$  that this account demands (nothing similar happened with other denominative suffixes).

- iii. The third option would be to operate with some type of analogy with other denominative suffixes ( $*-\bar{a}-t\bar{i}$ ,  $*-\bar{a}-je/o-$ ;  $*-\bar{o}-t\bar{i}$ ,  $*-\bar{o}-je/o-$ ;  $*-\bar{e}-t\bar{i}$ ,  $*-\bar{e}-je/o-$ ), either in the present stem ( $*-i-je/o- \rightarrow *-\bar{i}-je/o-$ ) or only in the aorist-infinitive stem ( $*-i-t\bar{i} \rightarrow *-\bar{i}-t\bar{i}$ ).<sup>17</sup> Such an option is needless to say hard to evaluate. I will here limit myself to note that although analogy involving acuteness is certainly attested in Balto-Slavic, I am not aware of clear instances of an analogical lengthening like the one supposed to have operated in  $*-i- \rightarrow *-\bar{i}-$ .

In short, derivation of the Bl. inf.  $*-\bar{i}-ti$  from a *bona fide* PIE *i*-stem denominative must be regarded as problematic. Curiously, the discussion on the form of this suffix has not focused on the infinitive, but on the present stem. The issue can be briefly formulated as follows. A Proto-Baltic pres.  $*-i\bar{i}a$  should not have been preserved intact, but should have given  $*-\bar{i}$  or  $*-\bar{i}a$ . This implies that the Baltic present must have been  $*-\bar{i}\bar{i}a$  or  $*-\bar{i}\bar{i}a$ , with a long stem vowel that, as we have just seen, is very problematic in a PIE perspective. Latv.  $-iju$  could faithfully continue PBl.  $*-\bar{i}\bar{i}a$ , but we are then forced to operate with a non-regular shortening  $*-\bar{i}\bar{i}a > *-\bar{i}a$  for both Lithuanian and some Latvian dialects.<sup>18</sup> This is needless to say unattractive.

If analogy is invoked, it is hard to see why something like  $*-\bar{i}-t\bar{i}$ ,  $*-\bar{i}\bar{i}a$ , if this is what Baltic inherited, should have been altered to  $*-\bar{i}-ti$ ,  $*-\bar{i}\bar{i}a$  in the prehistory of Lithuanian. If, on the other hand, Baltic had  $*-\bar{i}-ti$ ,  $*-\bar{i}\bar{i}a$ , analogical alteration to  $*-\bar{i}-t\bar{i}$ ,  $*-\bar{i}\bar{i}a$  on the model of other vocalic stems ( $*-\bar{a}-t\bar{i}$ ,  $*-\bar{a}-je/o-$ ;  $*-\bar{e}-t\bar{i}$ ,  $*-\bar{e}-je/o-$  etc.) looks in principle reasonable. This implies that Lith.  $-yti$ ,  $-ija$  is more conservative than Latv.  $-it$ ,  $-iju$  (a perfectible reasonable assumption, as far as it goes), but leaves some of the problems we have already met intact, above all the preservation of the putative inherited present  $*-\bar{i}\bar{i}a$ , which as just noticed should have given  $*-\bar{i}$  or  $*-\bar{i}a$ .<sup>19</sup> If this is

<sup>17</sup> So Ostrowski (2006, 129).

<sup>18</sup> See Endzelin (1948, 199); Stang (1966, 367) for discussion along these lines.

<sup>19</sup> The precise outcome of  $*-\bar{i}\bar{i}a$  is uncertain, as exact parallels are lacking. In my view  $*-\bar{i}a$  is more likely, as the development  $*\bar{i}a > *i$  is only certain before  $*-s$ , cf. Villanueva Svensson (2021, 13f.).

what happened, it is not self-evident why these present stems were not kept. This is certainly what we expect in the case of  $*-i\bar{a}$ , as Baltic actually had a type  $*-i\bar{t}i$ ,  $*-i\bar{a}$  (see below §3.1). In the case of  $*-i\bar{t}$  it is harder to make a prediction. I suppose something like  $*-i\bar{t}i$ ,  $*-i\bar{t} \rightarrow *-i\bar{t}i$ ,  $*-i\bar{t}i\bar{a}$  is indeed conceivable, but we would still have to assume an irregular shortening of the present to  $*-i\bar{i}a$  in Lithuanian and some Latvian dialects.

The issue will not be further pursued here. The point to stress is that origin of  $-yti$ ,  $-ija$  in denominatives from  $i$ -stems has to face severe problems from a formal point of view, even when the matter is considered within Baltic alone.

**2.3.** We turn to the Balto-Slavic context. The first observation to make is, obviously, that Slavic does not have a special suffix for denominatives from  $i$ -stems. For this Slavic uses  $i$ -verbs, e.g. OCS *solb* ‘salt’  $\rightarrow$  *o-soliti*, *-sol-* ‘salt’, *myslb* ‘thought, idea’  $\rightarrow$  *mysliti*, *mysli-* ‘think’. This is not by itself surprising, as  $i$ -verbs constitute the most productive denominative type of Slavic together with  $-ovati$ ,  $-uje-$ , e.g. OCS *bělv* ‘white’  $\rightarrow$  *běl-iti* ‘make white, whiten’, *měra* ‘measure’  $\rightarrow$  *měr-iti* ‘measure’. The prehistory of the Slavic  $i$ -verbs is perfectly clear. They continue PIE causatives and iteratives in  $*-e\check{i}e/o-$  and denominatives in  $*-e-i\acute{e}/\acute{o}-$ . The  $o$ -grade of the former leaves no doubt about it (e.g. OCS *voditi*, *vodi-* ‘lead’  $<$  post-PIE  $*\underline{u}od^h-e\check{i}e/o-$ , among countless others). It is important to stress this fact because in the past there has been considerable discussion concerning the way the  $*-i\bar{t}$ - of OCS *voditi*, *vodi-* relates to PIE  $*-e\check{i}e/o-$  and whether we are dealing with regular sound change, with analogy, with morphology borrowed from other suffixes, or, finally, whether the PIE  $e\check{i}e/o$ -presents themselves are in need of revision.

I regard this stage of the discussion as superseded.<sup>20</sup> As a result of some recent findings the development of the PIE  $e\check{i}e/o$ -presents in Balto-Slavic is now essentially well understood. The basic facts are given in the following Table:<sup>21</sup>

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<sup>20</sup> A detailed *Forschungsbericht* of the Slavic  $i$ -presents would be out of place here. See Arumaa (1985, 253-257), Hock (2005, 22f.) for discussion and references.

<sup>21</sup> The arrow ‘ $\rightarrow$ ’ indicates analogical forms. The exact shape of some endings is uncertain (in the case of the Baltic 2<sup>nd</sup> sg. the uncertainty is such that I have left this ending unspecified). Since this is irrelevant for our central topic, I do not discuss the endings here.

		PIE	Bl.-Sl. (1)	Bl.-Sl. (2)	Sl.	Bl. (1)	Bl. (2)
Sg.	1	*prokḗjoh <sub>2</sub>	*prašijō	→ *prášíō	*prošǫ	*prašijō	*prašijō
	2	*prokḗjesi	*prašisi	*prášis(i)	*prošiši	?	?
	3	*prokḗjeti	*prašiti	*prášit(i)	*prošit̥	*praši	*praši
Pl.	1	*prokḗjomos	*prašijamas	→ *prášimas	*prošim̥	*prašime	→ *prašime
	2	*prokḗjete	*prašite	*prášite	*prošite	*prašite	→ *prašite
	3	*prokḗjonti	*prašijanti	→ *prášint(i)	*prošet̥		
Inf.			*prašitī	→ *prášitī	*prošiti	*prašiti	*prašiti
Aor.			*praši-s-	→ *práši-š-	*prošix̥	→ *prašijā	*praše

As often in the Balto-Slavic verb, Slavic is more conservative than Baltic. In this case it preserves the late Balto-Slavic paradigm almost intact. The development of PIE to early Balto-Slavic ('Bl.-Sl. (1)' in the Table) was characterized by two major innovations: i) PIE *\*-eje-* regularly contracted to Bl.-Sl. non-acute *\*-ī-*;<sup>22</sup> ii) Balto-Slavic extended *\*-eje-* (or already contracted *\*-ī-*) to the aorist-infinitive stem (*qua* secondary verb formation, PIE *eje/o-* presents lacked an aorist altogether). The next step, from 'Bl.-Sl. (1)' to 'Bl.-Sl. (2)', involves two important (but largely predictable) analogical changes: i) the stem vowel *\*-ī-* was extended to forms continuing PIE *\*-ejo-*; ii) *\*-ī-* in the aorist-infinitive stem was acuted to *\*-ī-* on analogy with *all* other disyllabic aorist-infinitive stems (*\*-ā-*, *\*-ē-* etc.). This directly yields the paradigm of the Slavic *i*-verbs, most saliently characterized by a contrast between acute infinitive stem (Sl. *\*vodīti* < Bl.-Sl. *\*uàdītī*) and non-acute present stem (Sl. 3 sg. *\*vòdit̥* < *\*vodit̥* < Bl.-Sl. *\*uàdīt(i)*).

A detailed argumentation of the views expounded here would vastly exceed the limits of this article. As far as Baltic is concerned, the points to retain are the following ones: i) Baltic inherited a type cognate with the Slavic *i*-verbs (which in view of equations like OCS *voditi* = Lith. *vadyti*, *vādo* 'lead' is self-evident); ii) Slavic preserves the Balto-Slavic morphology better (which, again, is self-evident from Lith. *vadyti*, *vādo*, with *ā*-present); iii) Slavic *i*-verbs continue a Balto-Slavic class of *ī*-verbs (clearly the default hypothesis, cf. Sl. inf. *\*vodītī* = Lith. *vadyti*); iv) the non-acute *\*-ī-* of the Slavic *i*-presents regularly continues PIE *\*-eje-* (clearly the most controversial point, but by far the best option from a PIE perspective).

<sup>22</sup> See Hock (1995); Hill (2016, 216–218); Villanueva Svensson (2019, 202–205) for a detailed defense of this sound law.



We will return to Baltic immediately (§3). What matters here is what the development of the PIE *eġe/o*-presents in Balto-Slavic tells us about the generally accepted derivation of Lith. *-yti, -ija* from PIE *i*-stem denominatives. In my view, it renders it effectively impossible. The sound change *\*-eġe- > \*-ī-* was clearly a matter of vowel contraction. Since Bl.-Sl. *\*e* was clearly preserved after *\*ī* (e.g. Bl.-Sl. 3 sg. *\*pēis-īe-ti > OCS pišetv*), the first step can only have been *\*-eġe- > \*-iġe-*. From this point on, denominatives from *i*-stems, if still preserved at this stage of Balto-Slavic,<sup>23</sup> must have fully merged with the original *eġe/o*-presents. Put otherwise, we expect them to fully merge with the *ī*-verbs, which is of course confirmed by Slavic (*solb → o-soliti = bēlv → bēliti*).

3. The result of the discussion in §2 is clear. Despite appearances, the Baltic type Lith. *-yti, -ija*, Latv. *-īt, -īju* cannot continue PIE denominatives from *i*-stems. Their origin must be sought somewhere else. Given the identity of the infinitives of the types *daly-ti, -ija* and *vad-yti, -o*, it is evidently tempting to look for the origin of the type *daly-ti, -ija* in the Balto-Slavic *ī*-verbs (§2.3). In what follows I will first deal with the development of the Balto-Slavic *ī*-verbs in Baltic (§3.1) to turn then to the origin of the type *dal-yti, -ija* (§3.2).

3.1. The development of the Balto-Slavic *ī*-verbs in Baltic was dominated by two major innovations. The first one was exclusive to this class of verbs: unstressed non-acute word-final *\*-ī(C)* was shortened in Proto-Baltic. I refer to Hill (2016, 214–222) and Villanueva Svensson (2019, 202–205) for a detailed defense of this sound law, also seen in the Baltic infinitive *\*-ti* (Lith. *dúo-ti*, Latv. *duō-t*, OPr. *dāt*) < Bl.-Sl. *\*-tī* (OCS *da-ti*) < PIE *ti*-stem dat. sg. *\*-teġej* (Ved. inf. *-taye*), or in the *īo*-stem nom. sg. *\*-īs* (Lith. *ožỹs* AP 3 ‘goat’) vs. unstressed *\*-is* (Lith. *brólis* AP 1 ‘brother’), among other endings. This yields the 3<sup>rd</sup> person *\*praš-i* under ‘Bl. (1)’ in the Table. The second development is common to the whole Baltic verb. This branch notoriously lost number distinctions in the 3<sup>rd</sup> person. The etymological 3<sup>rd</sup> person singular was generalized. Balto-Slavic, in addition, was affected by a conditioned apocope of word-final *\*-i*; see Villanueva Svensson (2017–2018) for a detailed treatment. In non-athematic paradigms Baltic extended

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<sup>23</sup> This qualification intends to capture the fact that *i*-stem denominatives are not a particularly important formation and that, accordingly, they may simply be lost without a specific phonetic motivation. Note, for instance, that Balto-Slavic had no special suffix for denominatives from *u*-stems and, apparently, never felt any need to fill in this gap.

the apocopated variant  $*-ti > *-t > *-\emptyset$ . As a result of these changes Baltic verbal paradigms were restructured as an endingless 3<sup>rd</sup> person to which 1<sup>st</sup> and 2<sup>nd</sup> singular, plural and dual endings are attached, e.g. Lith. pres. *vėda* : 1 pl. *vėda-me*, 2 pl. *vėda-te*; pret. *vėdė* : 1 pl. *vėdė-me*, 2 pl. *vėdė-te*, etc. Since Baltic now had a 3<sup>rd</sup> person  $*\text{praš-}i$  we expect the irregular paradigm of ‘Bl. (1)’ to be regularized as an  $i$ -present of the stative type (Lith.) *budžiù*, *budì*, *bùdi*, *bùdime*, *bùdime* (inf. *budėti* ‘be awake’). This is the paradigm given under ‘Bl. (2)’ in the Table.

I will not here insist on the correctness of the last assumption, which remains entirely hypothetical (for this reason in what follows I will refer to this Proto-Baltic present type as ‘ $\check{i}$ -presents’). The point to stress is that, no matter how one envisages the development of the Balto-Slavic  $\bar{i}$ -presents in early Baltic (be it our ‘Bl. (1)’, our ‘Bl. (2)’, or still something else), the expected paradigm simply does not exist. In its place we find a surprisingly large number of historically hybrid formations:

1. Iteratives and causatives of the type Lith. *laikýti*, *laïko*, *laïkė*, Latv. *laïcît*, *laïku*, *laïcïju* ‘hold’, with  $\bar{a}$ -present (< post-PIE  $*-ah_2-e/o-$ ). In OPr. *laikūt*, *laïku*  $*-\bar{a}$ - has been extended to the infinitive and preterit.
2. The type OLith. *tarýti*, *tāria*, *tārė* ‘show’, with  $ia$ -present (< PIE  $*-\check{i}e/o-$ ). This type is reliquary in Lithuanian and unattested in Latvian, cf. Stang (1966, 327f.). Original members have been recast as primary  $ia$ -presents (modern Lith. *taŗti*, *tāria*) or transferred to the type *laikýti*, *laïko* (dial. *ródyti*, *ródzia* → *ródyti*, *ródo* ‘show’).
3. Iteratives in  $*-\check{i}\bar{a}ti$ ,  $*-\check{i}\bar{a}ia-$ : Lith. *lándžioti*, *-ioja*, *-iojo* ‘creep, crawl about’ (← *lįsti*, *leñda* ‘crawl into’), Latv. *luõžât*, *-ãju* ‘id.’. This type is obviously analyzable as  $*-i-$  (cf. pres.  $*\text{praš-}i$ ) +  $*-\bar{a}ti$ ,  $*-\bar{a}ia-$ .
4. Factitives and causatives in  $*-\check{i}n-ti$ ,  $*-\check{i}n-a$  (Lith. *dėginti*, *-ina*, Latv. *dedz-inât*, *-ina* ‘burn’, OPr. *mukint*, *-inna* ‘teach’), where  $*-\check{i}n-$  arose through reanalysis of an original composite present suffix  $*-i-na$  (pres.  $*\text{praš-}i$  + Bl.-Sl. pres.  $*-ne/a-$  of the type OCS *rinõti*, *rine-* ‘cast, push’).<sup>24</sup>
5. Denominative type Lith. *-yti*, *-ija*, Latv. *-ît*, *-ïju*, as argued in this article.

<sup>24</sup> See Villanueva Svensson (fthc.) for a detailed argumentation of this view and Gorbachov (2007, 175f.) for a different scenario that, however, also derives Bl.  $*-\check{i}n-$  from the Balto-Slavic  $\bar{i}$ -verbs.

Considerations of space prevent us from even properly formulating some obvious questions that arise from the remarkable development of the Balto-Slavic  $\bar{i}$ -verbs in Baltic, the most urgent ones being i) why were the original Baltic  $\check{i}$ -presents entirely dismissed? and ii) what scattered the apparently chaotic contamination of suffixes that each of these formations implies? I hope to return to these questions elsewhere (see, for the moment, Villanueva Svensson *ftbc.*, §11–12). Origin in the  $\bar{i}$ -verbs, at any rate, has never been disputed for formations 1, 2 and 3. In the case of exclusively or partially deverbative formations (1, 2, 3, 4), origin in the  $\bar{i}$ -verbs is borne out by the widespread *o*-grade of the root (as in Lith. *laikýti* or *tarýti*). The identity of the infinitive  $*\bar{i}\text{-ti}$  of formations 1, 2 and 5 with Sl.  $*\check{i}\text{-ti}$  (< Bl.-Sl.  $*\bar{i}\text{-t}\bar{i}$ ) clearly points in the same direction. For present purposes three facts are particularly important:

- i. Against a relatively widespread assumption, there is no reason to believe that the paradigm OLith. *tarýti*, *tāria*, *tārē* continues the *original* present stem of the Balto-Slavic  $\bar{i}$ -verbs.<sup>25</sup> This is incompatible with the Slavic evidence (§2.3). Rather, the type *tarýti*, *tāria* was an offshoot of the original Baltic  $\check{i}$ -presents. The *Scharnierform* must have been the 1<sup>st</sup> sg.  $*\bar{i}\bar{a}$ , which was the same for *ia*-presents ( $*pe\check{i}\check{s}\bar{i}\bar{a}$ ) and  $\check{i}$ -presents ( $*pra\check{s}\bar{i}\bar{a}$ ).<sup>26</sup> The productivity of this type in early Baltic cannot be determined on the available evidence.
- ii. The original preterit of the Baltic  $\bar{i}$ -verbs can only have been  $*\bar{e}$  (<  $*\bar{i}\bar{a}$ ). This is clearly shown by the type *laikýti*, *laiko*, *laikė*, as the preterit of this formation cannot have been borrowed from a different type. The transfer of some  $\check{i}$ -presents to *ia*-presents based on 1<sup>st</sup> sg.  $*\bar{i}\bar{a}$  is easier to understand if both *ia*- and  $\check{i}$ -presents shared the same preterit.
- iii. The reconstruction of the early Baltic present stem as an *i*-present (crucially depending on a regular development PIE  $*prok\acute{e}i\eta\text{-ti}$  > Bl.-Sl.  $*pra\check{s}\bar{i}\text{-ti}$  >  $*pra\check{s}\bar{i}\text{-t}$  > Bl.  $*pra\check{s}\bar{i}$  >  $*pra\check{s}\bar{i}$ ) has made the development of some formations easier to understand, as the  $*\bar{i}$ - of pres.  $*\bar{i}\bar{a}$  (Lith. *lándžioja*),  $*\bar{i}\text{-na}$  (Lith. *dėgina*) and  $*\bar{i}\text{-ia}$  (Lith. *dalija*) can now be straightforwardly identified with the  $*\bar{i}$  of Bl.  $*pra\check{s}\bar{i}$ .

<sup>25</sup> Pace Kortlandt (1989, 107); Ostrowski (2006, 128), among others.

<sup>26</sup> Similarly Endzelin (1923, 638); Stang (1966, 329).

Having these considerations in mind, we can finally turn to the origin of the type Lith. *dal-ýti*, *-ija*, Latv. *sàl-ît*, *-îju*.

3.2. Let us begin by summarizing the results achieved so far. Baltic had a type *\*-īti*, *\*-īja*, *\*-ījā* that was used to build denominatives from nouns. It was probably semantically unmarked and displayed different values depending on the derivational base and other factors, but transitivity is likely to have predominated (as among the Slavic *i*-denominatives). The formation is certain for East Baltic, where it is less productive than the other major denominative types. Its range in Old Prussian is predictably hard to specify. Against the *communis opinio*, this type cannot have arisen in denominatives from *i*-stems. This implies that it must be an offshoot of the Balto-Slavic *ī*-verbs (PIE *\*-eje/o-*). This accords well with the general development of this class in Baltic, but still leaves us with the task of specifying what exactly happened.

The first step will be to determine in as much detail as possible where did the type *\*-īti*, *\*-īja* originate and to extract as much information as possible from a face-value internal analysis of this suffix. The first question is easily answered: the type arose among denominatives from nouns. This is borne out both by the main value of *\*-īti*, *\*-īja* itself and by the fact that other offshoots of the Balto-Slavic *ī*-verbs cover other functions of this suffix. The type *laikýti*, *laīko* was used for iteratives and causatives, the type *lándžioti*, *-ioja* for iteratives, and the type *dēginti*, *-ina* for factitives and causatives. All these types became productive. This leaves denominatives from nouns as the most likely place in which the type *\*-īti*, *\*-īja* arose. The only concurrent formation (in addition, of course, to other denominative suffixes like *\*-āti*, *\*-āja* or *\*-ōti*, *\*-ōja*) was the type *tarýti*, *tāria*. Unfortunately, the original value of this type is uncertain. In Eastern Lithuanian dialects, where the type is still reasonably well attested, causatives predominate (Stang 1966, 328), but iteratives are also attested (as *tarýti*, *tāria* itself). More importantly for present purposes, this type must have encompassed a sizeable number of denominatives, as postulating a prehistoric type *\*-īti*, *\*-īja* is the easiest way to account for the existence of original denominatives among the primary *ia*-presents, e.g. *švęsti*, *šveñčia* ‘celebrate’ (← *šveñtė* ‘holiday’), *taũkti*, *-ia* ‘grow fat’ (← *tauķai* [pl. t.] AP 3 ‘fat’), *juõktis*, *-iasi* ‘laugh’ (← *juõkas* ‘laughter, joke’), etc.

An elementary internal analysis of the suffix *\*-īti*, *\*-īja*, *\*-ījā* yields important results as well. The infinitive *\*-ī-ti* is directly inherited from Balto-Slavic *\*-ī-tī* (Sl. *\*-īti*). The preterit *\*-ījā* must be renewed, as the Baltic preterit was *\*-ē* (preserved in the types *laikýti*, *laīko*, *laīkē* and *tarýti*, *tāria*,

*tārē*). It evidently arose through an analogy pres.  $*-\bar{a}-\dot{i}a : *-\bar{o}-\dot{i}a : *-\dot{i}-\dot{i}a =$  pret.  $*-\bar{a}-\dot{i}\bar{a} : *-\bar{o}-\dot{i}\bar{a} : X$ , where  $X = *-\dot{i}-\dot{i}\bar{a}$ . This evidently implies that the preterit requires the previous existence of the present  $*-\dot{i}ia$ . As noted above (§2.2), internal evidence suggests that  $*-\dot{i}-\dot{i}a$ , with short vowel, is old, the variant with long vowel  $*-\bar{i}-\dot{i}a$  being an innovation of some East Baltic dialects. The analogy, again, is relatively trivial: inf.  $*-\bar{a}-ti : *-\bar{o}-ti : *-\bar{i}-ti =$  pres.  $*-\bar{a}-\dot{i}a : *-\bar{o}-\dot{i}a : X$ , where  $X = *-\bar{i}-\dot{i}a$ . The original present  $*-\dot{i}ia$ , however, cannot be very old either, as an old  $*-\dot{i}ia$  would have given  $*-\bar{i}$  or  $*-\dot{i}a$  (§2.2). The inescapable conclusion is that the pivotal present  $*-\dot{i}ia$  is a Baltic innovation. This immediately points to an analysis  $*-i$  (Bl. 3<sup>rd</sup> person  $*\text{praš-}i$ ) +  $*-\dot{i}a$  (the default present stem suffix for denominatives and, more generally, for verbal stems ending in a vowel).

We can finally present our scenario. The elimination of the  $\check{i}$ -presents must have been a long and complex process. Most likely we are dealing with the creation of new, more expressive suffixes that gradually ousted from use the formation on which they were originally based. When matters are viewed in this perspective, parallels are not hard to find. Thus, verbs in  $*-\text{in}\bar{a}ti$ ,  $*-\text{in}\bar{a}$ ,  $*-\text{in}\bar{a}\dot{i}\bar{a}$  (seemingly reflecting contamination between the types  $*-\text{in}\bar{t}i$ ,  $*-\text{in}\bar{a}$  and  $*-\bar{a}ti$ ,  $*-\bar{a}$ ) have completely replaced the inherited type  $*-\text{in}\bar{t}i$ ,  $*-\text{in}\bar{a}$ ,  $*-\text{in}\bar{a}$  in Latvian (Latv. *dedz-ināt*, *-ina*, *-ināja* vs. Lith. *dėg-inti*, *-ina*, *-ino*). In the case of the  $\bar{i}$ -verbs, it seems reasonable to assume that the types *laikyti*, *laiko*, *lāndžioti*, *-ioja* and *dėginti*, *-ina* were created at an early date and became productive for iteratives, causatives and factitives. In this way the deverbative functions of the Balto-Slavic  $\bar{i}$ -verbs came to be associated with other suffixes. It is surely not a coincidence that *o*-grade is at home, precisely, in these three types (the type *tarýti*, *tāria* does not, as a rule, display *o*-grade, with few exceptions like the derivationally isolated *tarýti* itself). By the same token, deadjective factitives also came to be prototypically associated with a different suffix. The point to stress is that, as a result of these processes,  $\bar{i}$ -verbs with an  $\check{i}$ -present became restricted to denominatives. An indeterminate number of deverbatives must still have followed this inflection, but we can reasonably hypothesize that  $\check{i}$ -presents were not productive anymore for causatives and iteratives.

At a certain stage, then, Proto-Baltic had a predominantly denominative type that can be represented by examples like  $*\text{dal-}\bar{i}-ti$ ,  $*\text{dal-}i$ ,  $*\text{dal-}\bar{e}$  ‘divide’,  $*\text{sal-}\bar{i}-ti$ ,  $*-\bar{i}$ ,  $*-\bar{e}$  ‘salt’,  $*\text{šuent-}\bar{i}-ti$ ,  $*-i$ ,  $*-\bar{e}$  ‘celebrate’, or  $*\text{i}\bar{o}k-\bar{i}-ti$ ,  $*-i$ ,  $*-\bar{e}$  ‘joke, laugh’. The type also encompassed deverbatives like  $*\text{tar-}\bar{i}-ti$ ,  $*-i$ ,  $*-\bar{e}$

‘say’ or *\*rād-ī-ti*, *\*-i*, *\*-ē* ‘show’. I will not here try to answer the important question of *why* was this type eliminated. A possible reason is homonymy of the present stem with the stative *i*-presents. Another reason may be the fact that the present stem was poorly characterized for a denominative suffix. Be it as it may, the *ī*-present was eliminated. This almost certainly happened in three different ways.

The first one was mere replacement with the better characterized denominative suffixes *\*-āti*, *\*-āja* and, especially, *\*-ōti*, *\*-ōja*. This clearly did not happen in such a massive way as to fully eliminate the type *\*-īti*, *\*-īja* from use. The other two developments are the ones that interest us here.

One of them was to replace the *i*-present with a *ia*-present. As noted above, the 1<sup>st</sup> sg. *\*-iō* and the *ē*-preterit must have acted as pivotal forms. Unfortunately, we cannot precise the functional and derivational profile of this type in any detail. Accordingly, the precise conditions under which the change *\*iōk-ī-ti*, *\*-i*, *\*-ē* → *\*iōk-ī-ti*, *\*-ia*, *\*-ē* took place cannot be recovered. The same holds true for chronology. The fact that the type appears to have encompassed causatives, iteratives and denominatives suggests that this regularizing strategy was the default option for the leftovers, so to speak, from earlier morphological processes, but this is not something we can ascertain beyond reasonable doubt.

The third development consisted in the *addition* of the universal denominative present suffix *\*-ia* (and, one may add, of the universal present suffix *\*-ia* to verbal stems ending in a vowel) to the 3<sup>rd</sup> person *\*-i* (or, probably, to the present stem *\*-i-*, if our suggestion concerning the early development of this type in Baltic is correct): *\*dal-ī-ti*, *\*dal-i*, *\*dal-ē* → *\*dal-ī-ti*, *\*dali-ia*, *\*dal-ē*. In due time the preterit was predictably adapted to the new present stem *\*-iia*: *\*dal-ī-ti*, *\*dal-i-ia*, *\*dal-i-iā*. This was the origin of the type Lith. *dalyti*, *-ija*, Latv. *sālīt*, *-īju*. The fact that this type is (almost) exclusively denominative strongly suggests that the crucial innovation pres. *\*-i* → *\*-i-ia* arose among denominatives alone. The motivation clearly must have been the desire to adapt the type *\*dal-ī-ti*, *\*dal-i*, *\*dal-ē* to the normal inflection of Baltic denominatives (pres. *\*-ā-ia*, *\*-ō-ia*, *\*-ē-ia*, *\*-au-ia*; Lith. *-oja*, *-uoja*, *-ėja*, *-auja*).

4. The results of this article are easily summarized. The Baltic denominative suffix *\*-īti*, *\*-iia* (Lith. *dal-yti*, *-ija*, Latv. *sāl-īt*, *-īju*) does not go back to denominatives from *i*-stems, as generally assumed. It was an offshoot of the

Balto-Slavic  $\bar{i}$ -verbs consisting of present stem vowel  $*-i$  (PIE  $*prok\acute{e}j\acute{e}ti >$  Bl.-Sl.  $*pra\acute{s}iti > *pra\acute{s}it >$  Bl.  $*pra\acute{s}\bar{i} > *pra\acute{s}i$ ) +  $*-ja$  (the universal present stem suffix for denominatives in Baltic). This is in accordance with the development of the Balto-Slavic  $\bar{i}$ -verbs in Baltic.

## LIETUVIŲ KALBOS DENOMINATYVINĖS PRIESAGOS $-yti$ , $-ija$ KILMĖ

### *Santrauka*

Baltų denominatyvinės priesagos lie.  $-yti$ ,  $-ija$ , la.  $-ît$ ,  $-ïju$  nėra kilusios iš  $i$  kamieno daiktavardžių denominatyvų, kaip įprasta manyti. Ši priesaga atsirado iš bl.-sl.  $\bar{i}$ -veiksmažodžių, turinčių prezenso kamiene  $*-i$  (ide. 3 vns.  $*prok\acute{e}j\acute{e}ti >$  bl.-sl.  $*pra\acute{s}iti > *pra\acute{s}it >$  bl.  $*pra\acute{s}\bar{i} >$  3 asm.  $*pra\acute{s}i$ ) +  $*-ja$  (universalinė denominatyvinių veiksmažodžių prezenso kamieno priesaga baltų kalbose). Šios priesagos raida yra įprasta bl.-sl.  $\bar{i}$ -veiksmažodžiams baltų kalbose.

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